CERES draft schematic for CLAMS (2/14/01 t.p.charlock@larc.nasa.gov)

The following is (1) an outline of flights CERES would like to happen in CLAMS and (2) a schematic flight diagram. It is a starting point for discussion with other teams; not a statement of requirements. It covers the main flights; not all flights. We have a better vision for the use of our own OV-10 aircraft than we have for the use of the other aircraft.

For each overpass of Terra under clear conditions:

OV-10 [up and down: SW spectrometers, SW+LW broadband]

Quick pass at 30 m immediately above COVE
Rise to 100 m at COVE for ~3 km x 3 km horizontal survey
Each mission concludes with either
a. Run at 30-100m to NOAA buoy (100 km E of COVE)
or
b. Vertical profile above COVE to ~3 km

CV-580 [in situ aerosol, broadband flux, CAR]

Prior to arrival of OV-10, a ~15 km x 15 km horizontal survey at 200 m around COVE
Vertical profile over COVE to 8 km
Each mission concludes with run to NOAA buoy (100 km E of COVE) above 500 m and distant profile of opportunity

ER-2 [AirMISR, MAS, CPL]

Prior to satellite overpass, a run from COVE to NOAA buoy (100 km E of COVE) and return
Survey same ~15 km x 15 km area as CV-580
Each mission concludes with run to NOAA buoy

Proteus [Fourier Transform Spectrometer for LW emission]

Prior to satellite overpass, a run from COVE to NOAA buoy and return at 100 m
Distant vertical profile of opportunity
Each mission concludes with descending vertical profile at COVE as OV-10 departs

Should we not obtain sufficient clear (cloud free) conditions over COVE during Terra overpasses July 10 – August 1, the target for the flights would switch to any clear (cloud free) blob of marine sky near COVE. CERES will conduct supplementary flights of the OV-10 for clear conditions (1) in a survey of various solar zenith angles and (2) to take data during AVHRR overpasses.

CLAMS Aircraft Concept in X-Z plane
- a "wish list" from CERES